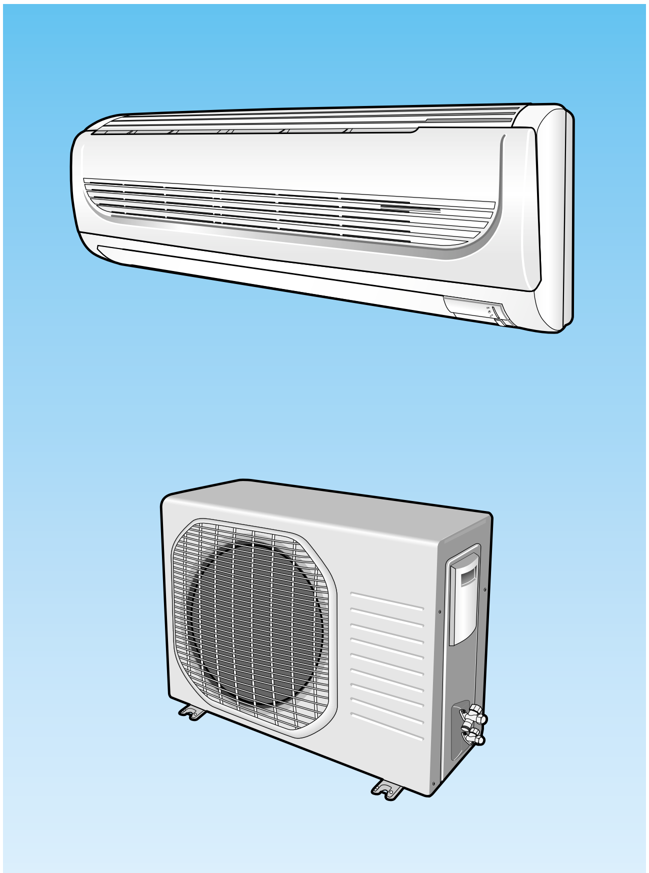
ROOM AIR CONDITIONER

INDOOR UNIT
SH12AWHD

OUTDOOR UNIT
SH12AWHDX

SERVICE *Manual*

AIR CONDITIONER



CONTENTS

1. Product Specifications
2. Disassembly and Reassembly
3. Set Up the Model Option
4. Exploded Views and Parts List
5. Block Diagram
6. Schematic Diagram

1. Product Specifications

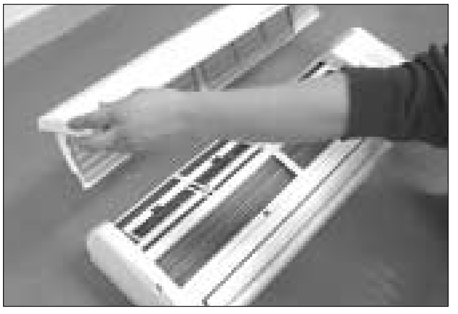
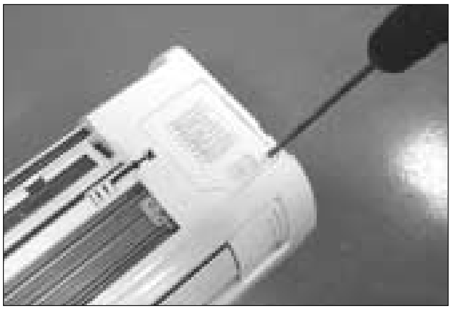
1-1 Table

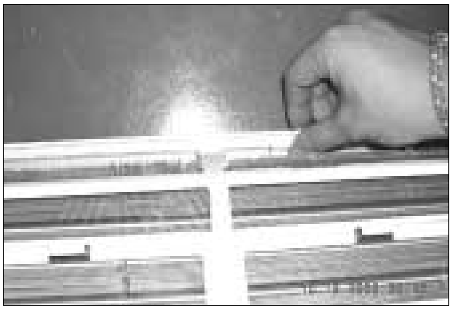
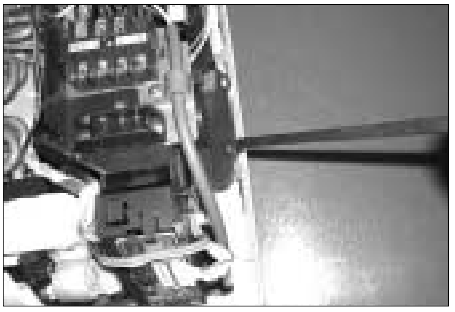
Item				Model	SH12AWHD	
					Indoor unit	Outdoor unit
Type					Wall-mounted	
Perfor-mance	Cooling			kW	3.5	
	Heating			kW	4.2	
	Dehumidifying			ℓ/h	1.9	
	Air Volume		Cooling	m^3/min	8.5	25
			Heating		9.2	25
	Noise		Cooling	dB	41	53
			Heating		41	53
	Energy Efficiency Ratio		Cooling	W/W	2.82	
			Heating		3.23	
	Power			V-Hz	1-220 / 240-50	
Power	Power Consumption		Cooling	W	1,240	
			Heating		1,300	
	Operating Current		Cooling	A	5.7	
			Heating		5.7	
	Power Factor		Cooling	%	96.4	
			Heating		97.4	
	Starting Current			A	32.0	
	Power Cord		Length	m	-	
			Number of Core Wire		-	
			Capacity	A	250V-10 / 16A	
Size	Outer Dimension		Width x Height x Depth	mm	825 x 285 x 189	720 x 548 x 265
				inch	32.5 x 11.2 x 7.44	28.4 x 21.6 x 10.4
	Weight(Net)			kg	9.3	33.8
	Refrigerant Pipe		Liquid	mm x L(MT)	ø6.35 x 7.5	
			GAS	mm x L(MT)	ø9.52 x 7.5	
	Drain Hose			D x L(mm)	ø18 x 2,000	
	Compressor	Type			Rotary	
		Motor	Type		Induction Motor(PSC)	
			Rated Output		1,310	
	Oil Type				DAPHENE FV68S(PVE)	
	Blower	Type			Cross-flow	Propeller
		Motor	Type		steel	steel
			Rated Output	W	15	50
Heat Exchanger					2ROW 14STEP	2ROW 24STEP
Refrigerant Control Unit					CAPILLARY TUBE	
Freezer Oil Capacity				cc	360	
Refrigerant to Change(R-410A)				g	960	
Protection Device(OLP)					RBC12074-12500	
Cooling Test Condition					INDOOR UNIT : DB27˚C WB19˚C	OUTDOOR UNIT : DB35˚C WB24˚C
Maximum Operation Condition					INDOOR UNIT : DB32˚C WB23˚C	OUTDOOR UNIT : DB43˚C WB26˚C

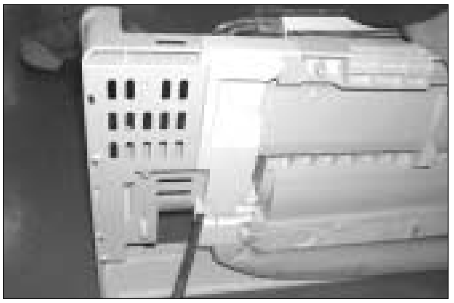
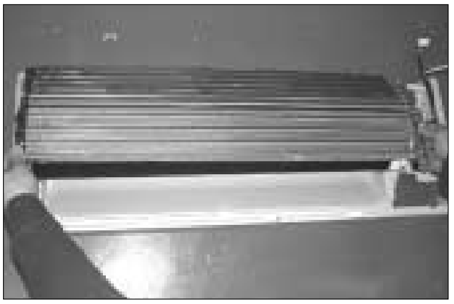
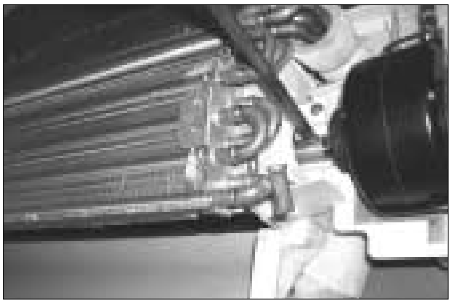
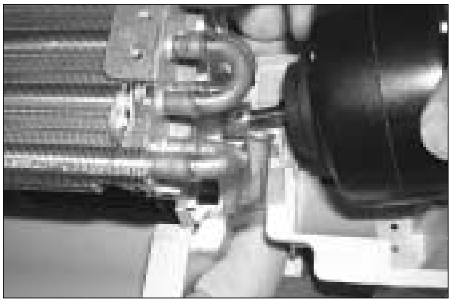
2. Disassembly and Reassembly

Stop operation of the air conditioner and remove the power cord before repairing the unit.

2-1 Indoor Unit

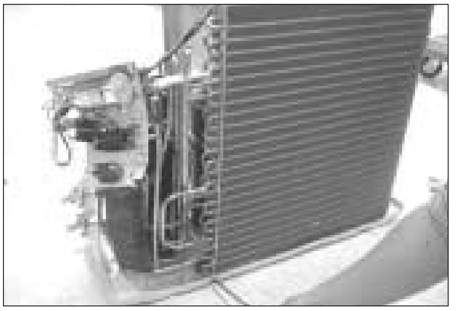
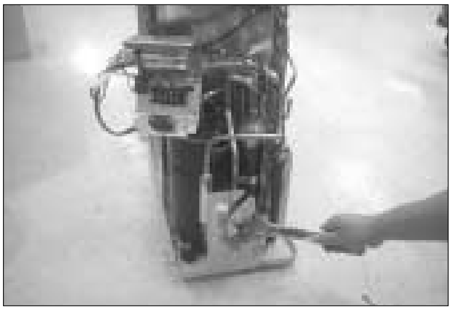
No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and block the main power.	
		2) Open the front grille by pulling right and left sides of the hook.	
		3) Loosen 1 of the right screw and separate the terminal cover. 4) Separate the thermistor from the front grille.	
		5) Loosen 5 fixing screws of front grille.	

No	Parts	Procedure	Remark
		6) Unlock 2 hooks to fix panel front and tray drain.	
		7) Unlock 3 hooks to fix panel front and back-body.	
2	Control-In (Main PCB)	1) Take all the connector of PCB upper side out. (Inclusion Power cord) 2) Separate the outdoor unit connection wire from the terminal block. 3) Loosen 4 fixing screws of assy control in.	
3	Tray Drain	1) Separate the drain hose from the extension drain hose. 2) Pull tray drain out from the back body.	

No	Parts	Procedure	Remark
4	Heat Exchanger	1) Loosen 2 fixing earth screws of right side. 2) Separate the connection pipe. 3) Separate the holder pipe at the rear side. 4) Loosen the 3 fixing screws of right and left side. 5) Lifting the heat exchanger up a little to push the up side for separation from the indoor unit.	  
5	Fan Motor & Cross Fan	1) Loosen the fixing screw and separate the motor holder. 2) Separate the fan motor from the fan. 3) Separate the fan from the left holder bearing.	 

2-2 Outdoor Unit

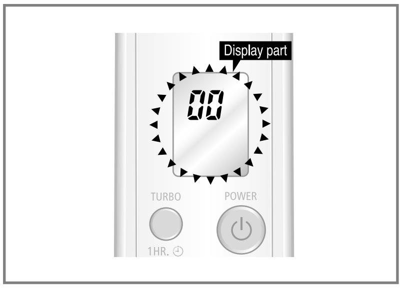
No	Parts	Procedure	Remark
1	Common Work	1) Loosen 7 fixing screws to detach the cabinet-front.	
		2) Loosen 2 fixing screws of the ASS'Y-Control.	
		3) Loosen 6 fixing screws of the cabinet-side RH.	
		4) Loosen 2 fixing screws of the cabinet-side LF.	
			

No	Parts	Procedure	Remark
2	Fan & Motor	1) Detach the nut flange.(Turn count clock wise because the screw is right-handed) 2) Detach the fan. 3) Loosen 4 fixing screws to detach the motor.	
3	Heat Exchanger	1) Loosen 2 fixing screws on both sides. 2) Disassemble the pipe in both inlet and outlet with welding torch. 3) Detach the heat exchanger.	 
4	Compressor	1) Loosen the terminal cover nut to open the terminal cover. 2) Disassemble the cloth sound felt. 3) Disassemble the pipe in both inlet and outlet of the compressor with welding torch. 4) Disassemble the pipe in both inlet and outlet of the condenser with welding torch. 5) Loosen the 3 bolts at the bottom. 6) Detach the compressor.	

3. Set Up the Model Option

3-1 Setting Option Setup Method

Option No. : 26 02 57 03 40 (SH12AWH)



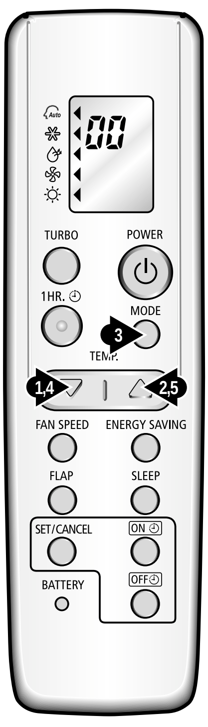
Step 1 : **Enter the Option Setup mode.**

1st Take out the batteries of remote control.

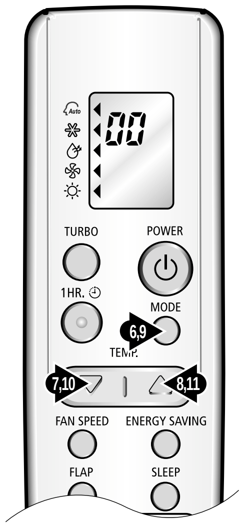
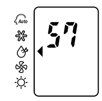
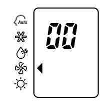
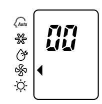
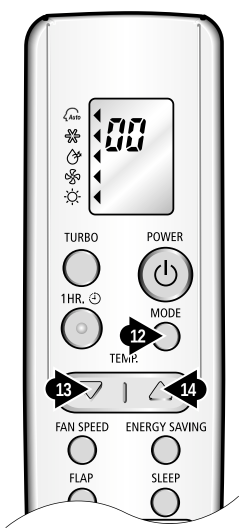
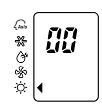
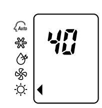
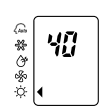
2nd Press the temperature ▽ | △ button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as 00 .

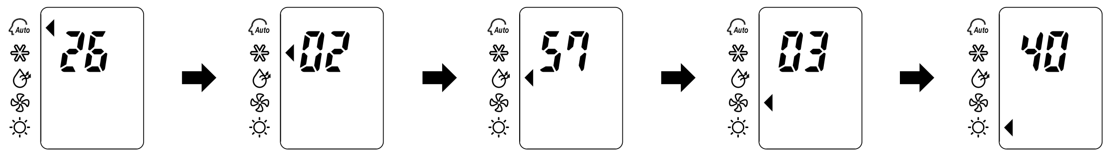
Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



No.	Feature	Display
1	Setting Option SEG1. Push the ▽ button to set the display panel to 2. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	20
2	Setting Option SEG2. Push the △ button to set the display panel to 6 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	26
3	Change it into the set display of Option SEG3 and SEG4 with the MODE button.	00
4	Setting Option SEG3. Push the ▽ button to set the display panel to 0. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	00
5	Setting Option SEG4. Push the △ button to set the display panel to 2. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	02

	Feature		Display
	6	Change it into the set display of Option SEG5 and SEG6 with the MODE button.	
	7	Setting Option SEG5. Push the ▽ button to set the display panel to 5 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	
	8	Setting Option SEG6. Push the △ button to set the display panel to 7 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	
	9	Change it into the set display of Option SEG7 and SEG8 with the MODE button.	
	10	Setting Option SEG7. Push the ▽ button to set the display panel to 0 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	
	11	Setting Option SEG8. Push the △ button to set the display panel to 3 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	
	12	Change it into the set display of Option SEG9 and SEG10 with the MODE button.	
	13	Setting Option SEG9. Push the ▽ button to set the display panel to 4 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	
	14	Setting Option SEG10. Push the △ button to set the display panel to 0 . Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	

Step 3 : Upon completion of the selection, check you made right selections.
Whenever you press the MODE button, the set Option will be displayed.



Step 4 : Pressing the ON/OFF button (⏻)
When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound "Ding" is heard and the OPERATION LED lamp is flickering at the same time, then the input of option is completed. (If the "ding" sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run
First, Remove the battery from the remote controller.
Second, Re-insert the battery into the remote controller.
Third, Press ON/OFF (⏻) key with the direction of remote controller for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out and plug in again and pressing ON/OFF key to retry.

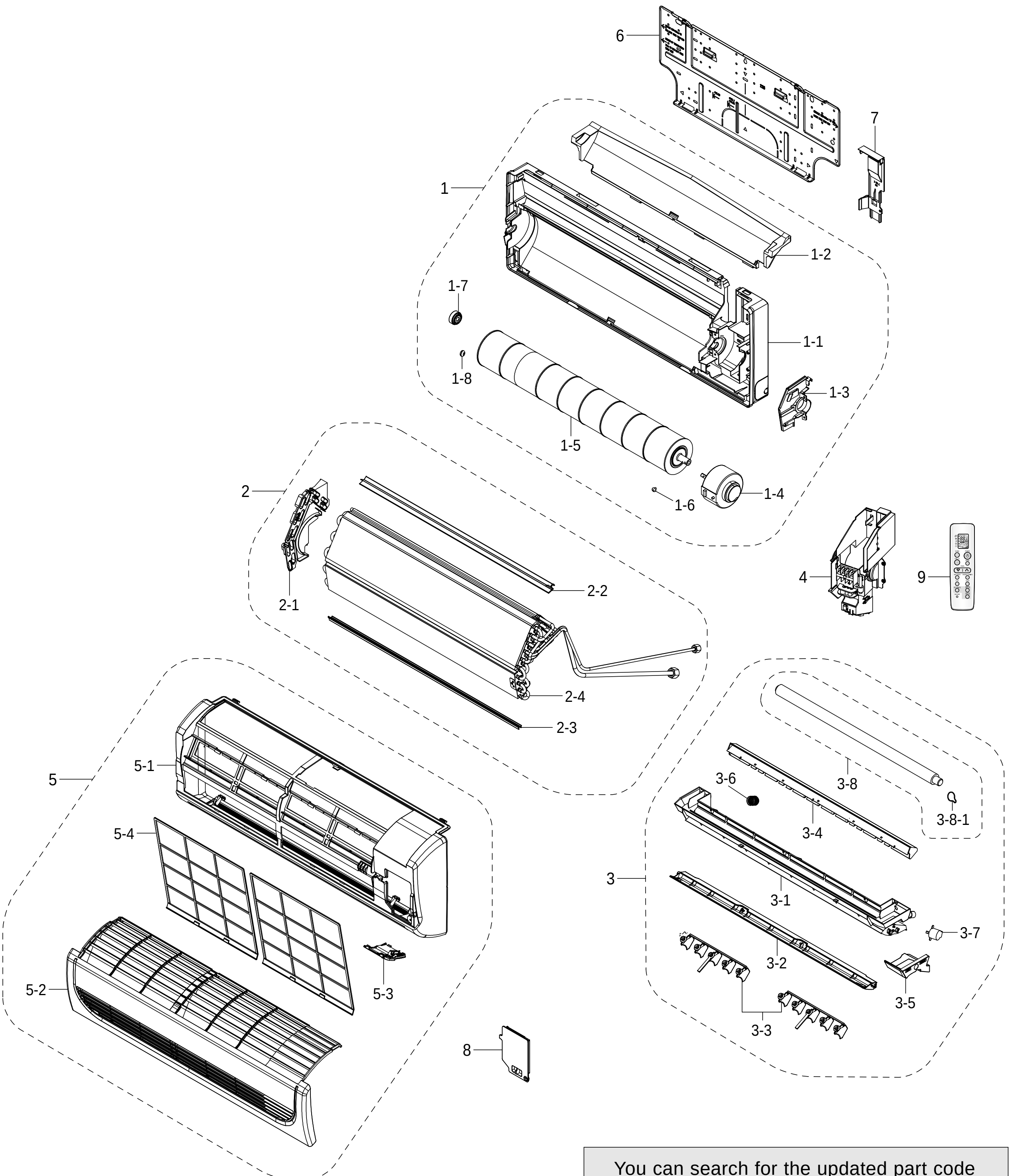
2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for it's model.

3-2 Table of the option Code

Model	Option Code									
	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10
SH12AWHD	2	6	0	2	5	7	0	3	4	0

4. Exploded Views and Parts List

4-1 Indoor Unit



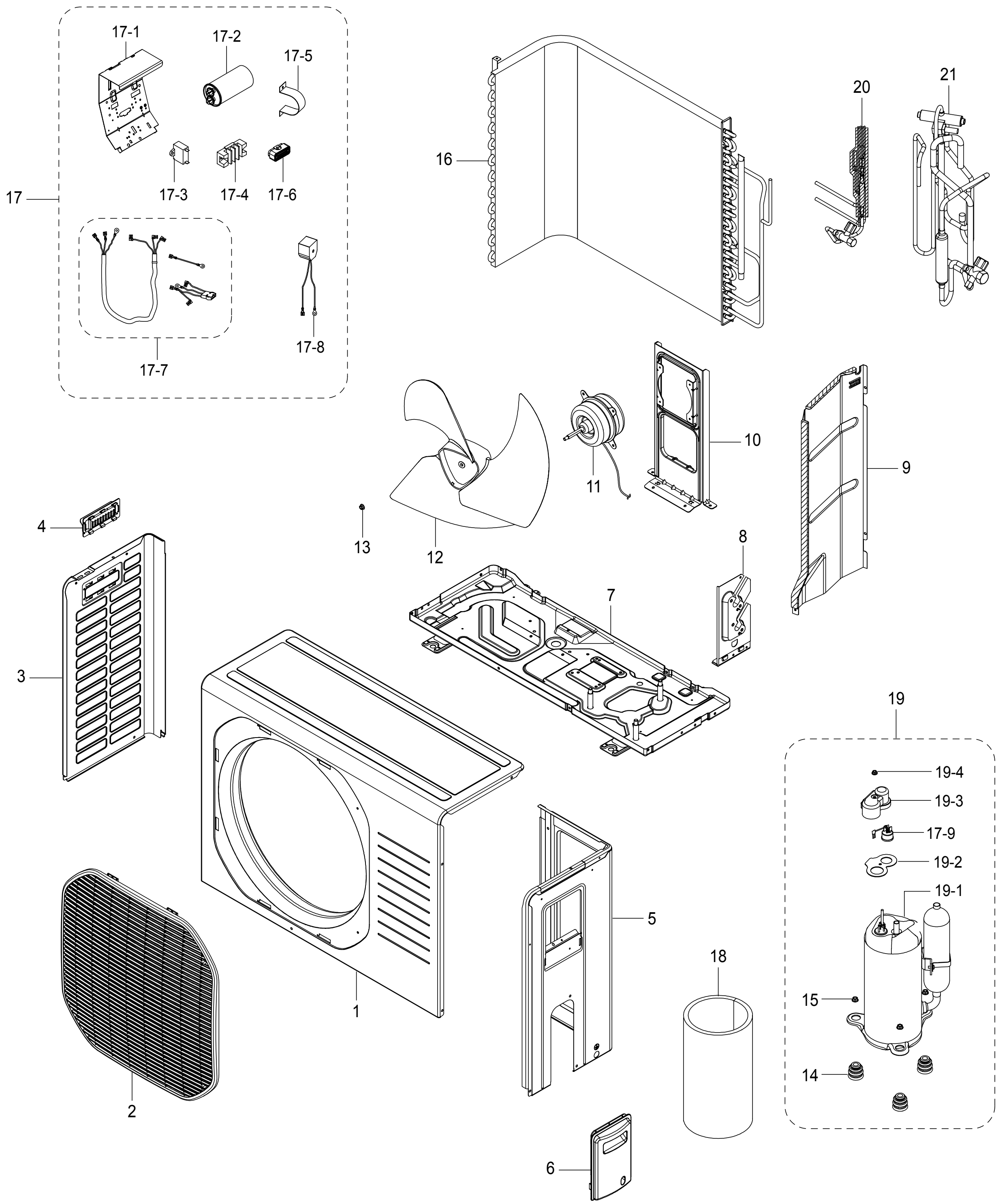
You can search for the updated part code number through the ITSELF.

URL : http://itself.sec.samsung.co.kr

■ Parts List

No.	Code No.	Description	Specification	Q'TY
				SH12AWHD
1	DB94-00454A	ASS'Y-BACK BODY	ASS'Y	1
1-1	DB61-01632A	BACK-BODY	HIPS	1
1-2	DB69-00834A	CUSHION-BACK BODY	EPS + PE	1
1-3	DB61-01634A	SUPPORTER-EVAP RH	HIPS	1
1-4	DB31-00219A	MOTOR-IN	YDK-20S4F8C-1	1
1-5	DB94-00456A	ASS'Y-CROSS FAN	OD92x635, 586g	1
1-6	DB97-02075A	ASS'Y BOLT-SPECIAL		1
1-7	DB73-00181A	RUBBER-BEARING	RUBBER	1
1-8	DB94-40007A	MOLD-BEARING	BEARING	1
2	DB96-03112A	ASS'Y CYCLE IN		1
2-1	DB63-00850A	COVER BEARING	ABS	1
2-2	DB62-02556A	SEAL-EVAP-UPPER	PE，25x620x3g	1
2-3	DB60-00118A	SPACE-EVAP-LOW	PVC, 18g	1
2-4	DB96-04716A	ASS'Y-EVAP TOTAL	1.3S, 2x14	1
3	DB94-00457D	ASS'Y-TRAY DRAIN	ASS'Y	1
3-1	DB63-00848A	TRAY-DRAIN	ABS, 260g	1
3-2	DB61-01635A	BLADE-H	HIPS, 150	1
3-3	DB61-01636A	BLADE-V	PP, 15.7g	2
3-4	DB63-00849A	STABILIZER	HIPS, 87g	1
3-5	DB69-00839A	CUSHION-TRAY RH	EPS30, 2g	1
3-6	DB73-00180A	RUBBER-CAP	GUM-EPM, 11g	1
3-7	DB95-20138A	ASS'Y-STEPPING-MOTOR	PI24-600g, 24BYJ48	1
3-8	DB94-00458B	ASS'Y DRAIN HOSE		1
3-8-1	DB61-01715A	CLIP TERMINAL HOSE	STS, PI1.0	1
4	DB93-02481L	ASS'Y-CONTROL IN	ASS'Y	1
5	DB92-00536B	ASS'Y-PANEL FRONT	ASS'Y	1
5-1	DB64-00989A	PANEL-FRONT	PS, 634g	1
5-2	DB64-00990A	GRILLE-AIR INLET	HIPS, 560g	1
5-3	DB97-02064A	ASS'Y-COVER DISPLAY	ASS'Y	1
5-4	DB63-00846B	GUARD-AIR FILTER	PP, 30g	2
6	DB70-00406A	PLATE-HANGER	SGCC-M T0.6x320x650	1
7	DB61-01638A	HOLDER-PIPE	PS, 37g	1
8	DB63-00844A	COVER TERMINAL	ABS-V0, 31g	1
9	DB93-03012B	ASS'Y-REMOCON	REMOCON	1

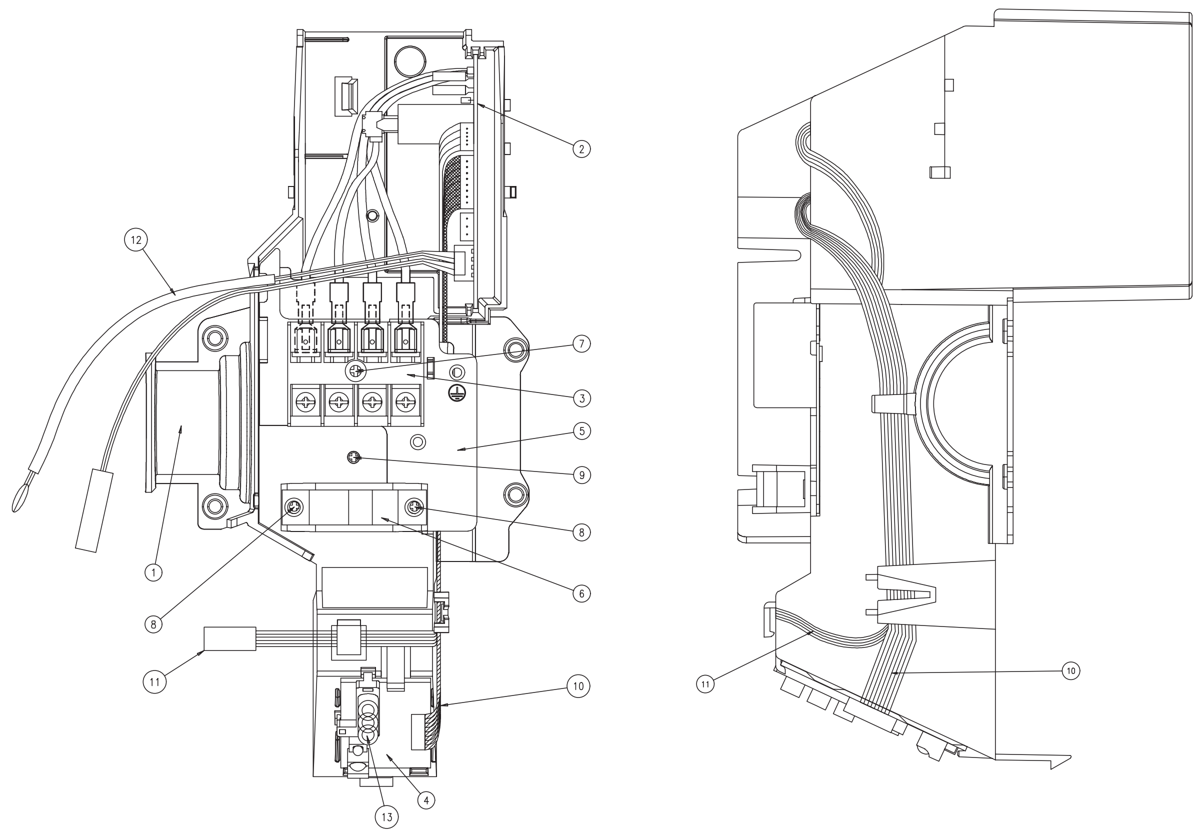
4-2 Outdoor Unit



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY
				SH12AWHDX
1	DB90-01341A	ASS'Y-CABI FRONT	T0.7, SECD-P	1
2	DB63-00847A	GUARD-FAN	PP, 378g	1
3	DB90-01332A	ASS'Y CABI SIDE LF	T0.6, SECC-P	1
4	DB64-00992A	HANDLE LF	PP, 30g	1
5	DB90-01331A	ASS'Y CABI SIDE RH	T0.6, SECC-P	1
6	DB63-00853A	COVER-CONTROL	ABS-V0, 66g	1
7	DB90-01330B	ASS'Y-BASE	T1.0, SECC-P	1
8	DB99-00401A	BRACKET-VALVE	SECC-P, T1.0x95x235	1
9	DB94-00459C	ASS'Y-PARTITION	ASS'Y, SGCC-M, T0.6	1
10	DB61-01644A	BRACKET-MOTOR	SGCC-M T0.6x370x490	1
11	DB31-00220A	MOTOR-OUT	YDK-25F6M13E-1	1
12	DB67-00397A	PROPELLER-FAN	AS+G/F 20%, 422g	1
13	DB60-30004A	NUT FLANGE		1
14	DB63-00763A	GROMMET	SAMSUNG	3
15	DB60-30028A	NUT WASHER		3
16	DB96-03580B	ASS'Y-COND	2x24, FP1.5, LOUVER	1
17	DB93-02748J	ASS'Y-CONTROL OUT	ASS'Y	1
17-1	DB62-01642A	CASE-CONTROL OUT	SGCC-M T0.6x150x250	1
17-2	2501-001237	CAPACITOR-COMP	35μFx450V	1
17-3	2301-001375	CAPACITOR-MOTOR	1.5μFx450V	1
17-4	DB65-40049E	TERMINAL-BLOCK		1
17-5	DB65-10046A	CLIP-CAPACITOR		1
17-6	DB61-00250A	HOLDER-WIRE		1
17-7	DB93-00481J	ASS'Y WIRE-COM		1
17-8	DB33-00050A	SOLENOID-ASS'Y	WIRE, ASS'Y	1
17-9	DB35-00036M	OLP	RBC12074-12500	1
18	DB72-00726B	SPONGE-FELT COMP CLOTH	FELT+PVC	1
19	DB95-00610G	ASS'Y-COMP		1
19-1	G4B129JXAEL	COMP	SAMSUNG	1
19-2	DB63-00765A	GASKET		1
19-3	DB63-00763A	COVER-TERMINAL		1
19-4	6021-001142	NUT FLANGE		1
20	DB96-03062C	ASS'Y CHECK VALVE	ASS'Y	1
21	DB96-04650A	ASS'Y 4WAY VALVE	ASS'Y	1

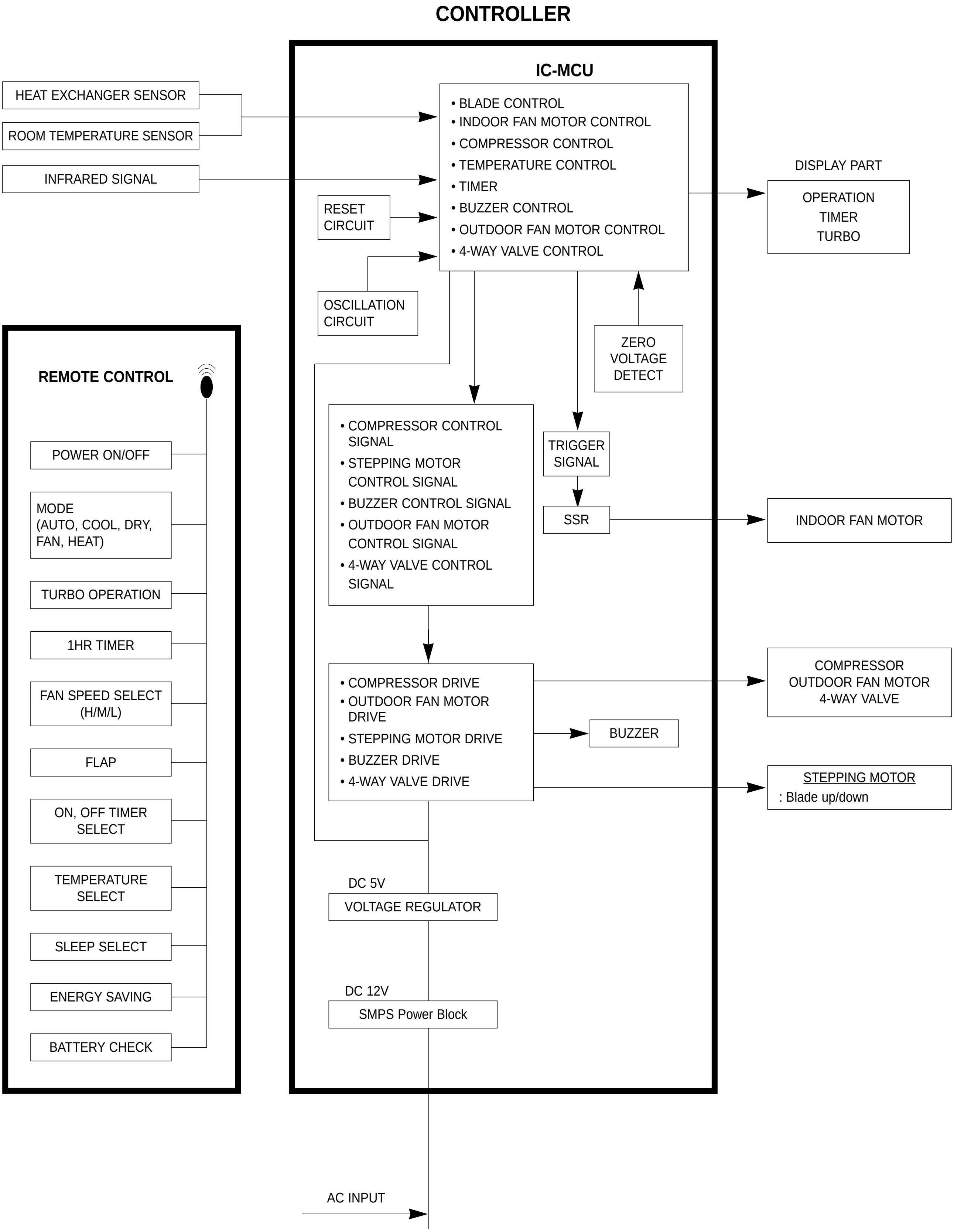
4-3 Ass'y-Contol In(Code No : DB93-02481L)



■ **Parts List**

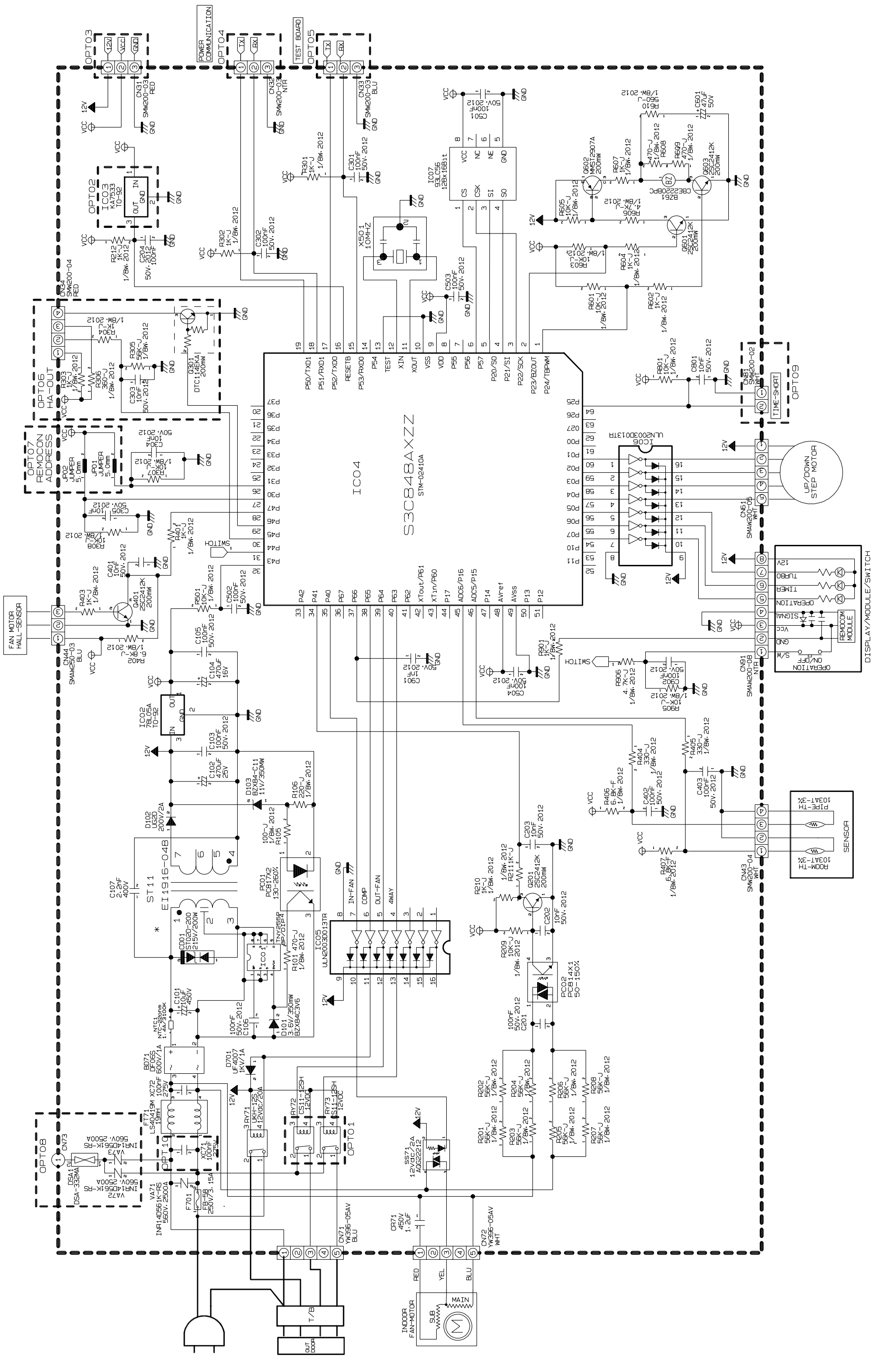
No.	Code No.	Description	Specification	Q'TY	Remark
1	DB61-01637A	CASE-CONTROL	ABS	1	
2	DB93-02482A	ASS'Y PCB MAIN	FR-4, 120x90	1	
3	DB65-00140A	ASS'Y TERMINAL BLOCK	4P	1	
4	DB93-02483A	ASS'Y S/W & MODULE & DISPLAY PCB	FR-1, 30x70	1	
5	DB61-01639A	PLATE-CONTROL	SGCC-M, T1-2	1	
6	DB61-00171A	HOLDER-WIRE CLAMP	ABS	1	
7	6001-000929	SCREW-MACHINE	PH M3xL22	1	SNA
8	6001-000725	SCREW-MACHINE	TH M4xL16	2	SNA
9	6001-001054	SCREW-MACHINE	TH M4xL10	1	SNA
10	DB39-00949A	CONNECTOR WIRE S/W & MODULE & DISPLAY	8P	1	
11	DB39-00147A	CONNECTOR WIRE STEP MOTOR UP/DOWN	5P	1	
12	DB32-00020D	ASS'Y THERMISTOR WIRE	4P(103AT)	2	

5. Block Diagram



6. Schematic Diagram

6-1 Indoor Unit



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